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A pilot study using a visual art intervention to support the well-being of elderly–people living in residential care home

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Abstract

As people age, interventions that promote emotional well-being and cognitive function become essential, especially for people with potential cognitive decline in residential healthcare facilities. Art-based interventions, particularly Visual Thinking Strategies (VTS), have solid evidence for promoting observation and listening skills, and activating specific neural areas for problem-solving and critical thinking. Furthermore, several studies have also shown that those involved in these activities reduce anxiety and stress in both educational and nursing settings. We therefore aimed to apply these activities to elderly-people living in a nursing home to verify improvements in well-being, anxiety, and cognitive decline. This study piloted a 4-session program that used a facilitated, guided discussion of the VTS method, presenting images of artworks to assess the impact on measures of emotional well-being and self-esteem, and to obtain feedback from participants on their experience using the VTS Skill Grid and the PANAS questionnaire. The results indicated that VTS activities were well accepted by participants, and the impact recorded in terms of both cognitive experience and anxiety reduction was very positive. These findings suggest the possibility of using this method and other artistic practices to promote cognitive, relational, and emotional skills in people at risk of cognitive decline, loneliness, and depression.

Keywords: wellbeing, cognitive impairment, visual thinking strategies, elderly people

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Introduction

As the population ages, there is a growing need to develop innovative approaches to promote and support mental and emotional well-being, both for older adults living with their families and those in nursing homes. Many elderly people in nursing homes

suffer from depression and anxiety, starting with a loss of self-esteem that triggers a vicious cycle with feeling of inferiority, unhappiness, dissatisfaction, negativity, fear, that flow into depression and anxiety, which can worsen cognitive function.

Many studies have shown how the use of the arts can be helpful in promoting empathy and a sense of purpose in people with cognitive impairment (Windle,2018) (Young,2015) (Selberg,2015) (Rosemberg,2009) (Tyach,2017).

A widely validated approach to engaging people with visual art is Visual Thinking Strategies (VTS). VTS is a method for facilitating discussions about art that allows for the sharing of personal discoveries as participants collectively find meaning that few could find alone. VTS was pioneered at MoMA and refined over twelve years of field testing conducted by Abigail Housen and Philip Yenawine (Housen,2002). Facilitators respond collaboratively to all comments, maintaining a safe environment for open discussion. VTS is based on the experiences and skills of each participant and does not presuppose any knowledge of art or art history. Designed to engage museum visitors, the VTS method is applied to improve teaching and learning in schools, as well as training in the medical and healthcare field to promote skills useful for improving care relationships, enhancing empathy and other important useful skills (Mukunda,2019).

There are few studies in clinical settings with individuals with cognitive impairment (Nidadavolu,2024), but the results obtained in various fields suggest the effectiveness of this method. In Italy, the method has been tested since 2014, and several studies in the educational and healthcare fields for the training of care staff and patients in promoting well-being and limiting stress (Ferrara,2022a) (Ferrara,2022b) have stimulated this study. As part of research in the field of promoting well-being and improving cognitive aspects, a collaboration was established with the operators of the RSA Flaminia, such as the psychologist (Cristiano M.) and social worker (Froio C.), to carry out the pilot study.

The general aim of this study was to animate a process of individual and collective stimulation through the internalization of the VTS methodology in the daily lives and personal spheres of the participants. Using observation tools, for example, when observing a photograph, a work of art, or even a fact or event—can trigger processes of curiosity, participation, and sharing, thus fostering nonjudgmental socialization and dialogue within the residential facility, overcoming the monotony and repetitiveness of usual daily activities.

It is well known that maintaining a high level of attention is essential for the elderly people to slow physical and mental decline, just as it is well known that stimulating cognitive processes can be invigorating and supportive in the treatment of even serious pathologies. Therefore, the free expression, participation, and socialization encouraged through VTS could foster a level of well-being through a process that goes beyond therapies (psychological or pharmacological) or activities (recreational-educational/manual or rehabilitative activities) typically offered in nursing homes.

The proposed activities aimed at to improve the ability to relate to patients and healthcare professionals, fostering more empathetic and collaborative communication; to reduce perceived stress levels through dialogue and sharing experiences, creating

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moments of relaxation and emotional comfort; to increase mental health scores by promoting psychological well-being and resilience in a non-domestic context; to promote distraction and relief from suffering or loneliness by offering an opportunity for recreation and intellectual stimulation through artistic and dialogical experiences; to promote authentic relationships through the sharing of artistic experiences, fostering social inclusion and active participation in a care setting; Improve listening skills and the ability to accommodate differences of opinion, foster mutual understanding; to reduce the monotony of routine by introducing an element of novelty and intellectual stimulation; to give meaning and value to the hospital stay experience, reinterpreting it in a positive light and fostering a less negative perception of the residence environment.

Methods

In collaboration with healthcare professionals at the *Residenza Flaminia* Nursing Home, 10 participants were selected and enrolled—one male and nine female—ranging in age from 56 to 98, with varying backgrounds, skills, and cultural levels. Nine participants were able to read and write, although some had some difficulty, while one participant was unable to read and write and was assisted by a staff member at the facility. Informed consent was obtained from each participant, and the study was approved by the nursing home.

Four 90-minute sessions were designed and conducted weekly. The sessions took place in a dedicated room with chairs and tables arranged in a semicircle to allow everyone to observe not only the images but also the other participants. During each session, participants were given a printout of a work of art and asked to carefully observe, reflect, and answer the question: "What is happening in the image? What visual details support your hypothesis?" Thus, following the VTS method approach. Each participant asked to speak and share their thoughts. The facilitator guided the discussion by summarizing the various hypotheses and connecting similar ones. Finally, the facilitator described the work and the artist's meaning behind it, seeking connections with the participants' hypotheses. The images of the artworks presented sought to draw on each participant's experiences and knowledge, as well as recalling personal memories.

During the first meeting, after an initial presentation, the discussion moved on to Brueghel the Elder's Country Dance, circa 1568. Everyone spoke, pointing out situations and details they had identified. Everyone felt welcome and expressed their gratitude for the activity. Nine participants attended the second meeting. An ex-voto by the artist De Luca, the Miracle of the Madonna del Ponte di Lanciano, from 1848, was presented for discussion. Everyone participated, offering their perspectives and pointing out details of the painting presented. A portrait painting activity was proposed for pairs, which raised some concerns about the participants' lack of preparation or motor skills, but the participants were eager to participate and thus

expressed a willingness to move beyond discomfort. During the third meeting, the works presented were The Tooth Puller, 1746-52, by Pietro Longhi, and The New Scholar, 1854, by Thomas Brooks. Each participant contributed, describing events related to their personal history: the market, the theater, the festival. For the second work, memories from school emerged. During the fourth meeting, the practice continued with Jan Steen's The Visit from the Doctor, 1658-1662, attempting to have the participants work in groups, thus delegating one person from the group to lead the discussion. All the participants recognized the doctor by the way he held the "sick" woman's wrist and shared their experiences and knowledge.
For each session, the PANAS questionnaire was administered before and after the activities to analyze the impact on participants' well-being. The VTS test was administered at the beginning and end of the program to analyze its impact on certain relational and cognitive skills.

PANAS Questionnaire

The PANAS questionnaire (Watson, 1988), (Terracciano,2003) is one of the most widely used instruments for assessing positive and negative affective states. The PANAS measures two distinct and independent dimensions: positive and negative affect. The questionnaire consists of 20 adjectives, 10 for the Positive Affect (PA) scale and 10 for the Negative Affect (NA) scale. The instrument works by capturing the soothing effect of an artistic experience on states of anxiety, stress, and fear, allowing the subject to "ideally leave behind" negative aspects of their life.
The PA subscale reflects the degree to which a person feels enthusiastic, active, and determined; the NA subscale refers to some general unpleasant states such as anger, guilt, and fear. The subject must rate how much he or she generally feels the way described by the adjective, responding on a 5-point Likert scale (1 = not at all, 2 = a little, 3 = moderately, 4 = quite a lot, 5 = very much). Examples of adjectives are “interested”, “enthusiastic”, “determined”, “distressed”, “hostile” and “nervous”. The original version was developed and validated by Watson, Clark and Tellegen in 1988 and has excellent psychometric properties: the internal consistency coefficient of the PA subscale ranges from .86 to .90 and that of the NA subscale ranges from .84 to .87. Furthermore, the test has good convergent and divergent validity. The two subscales have a low correlation (from -.12 to -.23), and this characteristic is in line with the theory that the two factors, PA and NA, are independent of each other. The two subscales also have good test-retest fidelity.
The PANAS has been translated into several languages, the Italian version was validated on a sample of 600 subjects and replicated the psychometric characteristics of the American study.

VTSKill Grid evaluation

One of the objectives of this study was to verify whether the use of visual thinking strategies in this context could be useful for improving the state of well-being measured with the PANAS questionnaire, as well as assessing the improvement in

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cognitive skills and abilities. To address this, a pre- and post-activity assessment form was administered. The form provided to participants, before and after the program, contained an image that they were asked to describe by answering the following questions: What's going on in the image? What visual evidence, the details, support what you described? The forms were analyzed using the VTSKILL grid, validated for this type of activity (Ferrara, 2020). The grid was developed to measure changes in certain relational and cognitive skills in response to the Visual Thinking Strategies intervention, such as critical thinking, observation and attention skills, linguistic expression, word count, number of details identified, inference-making ability, and problem solving. 8 out of 10 participants completed the pre-test and post-test.

Results

Nine females and one male participated in this study, which aimed to evaluate the impact of an aesthetic experience according to the VTS protocol. Before the first session, the PANAS questionnaire established the baseline level of perceived well-being, which was compared to the PANAS score measured at the end of the four VTS sessions.
The comparison of the values measured before the first session and at the end of the fourth session allowed us to determine whether the experience had a positive or negative impact on perceived psychological well-being.
The mean PANAS value increased from 7.1 to 15.15 (Table 1). This mean increase in perceived well-being was statistically significant with a P value < 0.05 (Student's t-test for paired data). This indicator, called P, means that there is a probability smaller than 5/100 that this change is due to a random event.

Table 1 - PANAS statistical values

	PANAS pre	*PANAS post*	P value*
Average	7.1	15.15	< 0.05
Standard deviation	7.23	7.88	

*Paired Test t

Figure 1 describes the set of values measured in the various sessions with the box and whisker technique.

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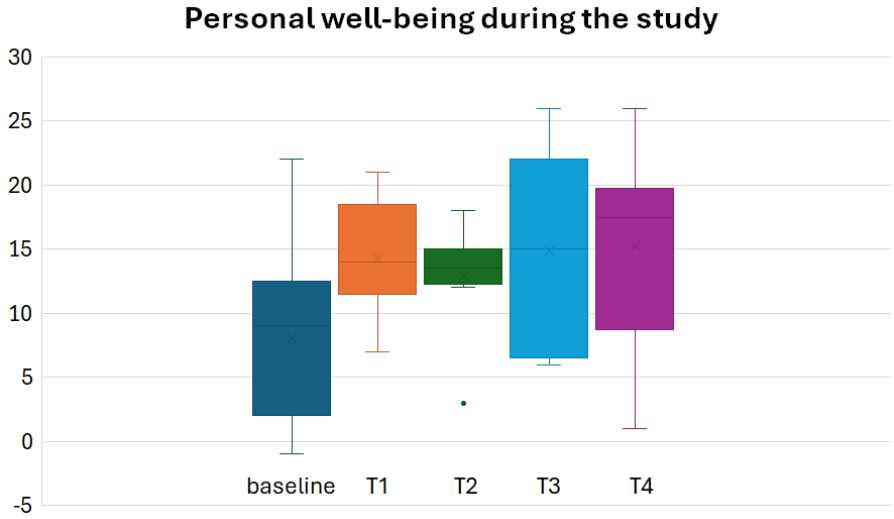
Figure 1 – Personal well-being during the study



Box and whiskers of pre-post VAS values (Bryant, 2008). The box collects data between the 25th and 75th percentiles. In the box, x represents the mean value; the line represents the median. The two antennas represent the data range. A progressive increase in the PANAS level is noted. The quantitative leap is evident already after the first session.

Another important aspect is the variability of the measured value expressed by the standard deviation. By combining the difference between the mean values and the standard deviation with a specific formula, a very important statistical index can be obtained: the "effect size." If this index is less than 0.4, the effect is defined as small; if it is between 0.4 and 0.8, the effect is medium; if it is greater than 0.8, the effect is large. In our case, the effect size was 1.09. This is therefore a very large effect size, rarely observed with pharmacological interventions.

For the participants who completed the forms, the results were positive, as indicated by the difference between the values measured before and after the proposed program, even before the grid analysis. Indeed, all participants reported improved image description, linked to improved observation and perception processing skills.

The results of the impact assessment using the grid confirm these findings.

Table 2 shows the changes in scores for various items on the scale before and after the VTS series of meetings.

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Table 2 - Results of the VTS impact analysis

	Pre		post			
	mean	DS	mean	DS	P	effect size
Critical thinking	0.9	0.74	1.5	1.08	0.02	0.81
Observation skill	0.9	0.74	1.4	0.84	0.05	0.68
Linguistic expression	0.7	0.82	1.5	0.85	0.01	0.97
Number of words	16.1	12.44	22.2	17.25	0.2	0.49
Problem solving	0.5	0.85	1.3	1.06	0.05	0.94
N° of visual elements identified	3.1	2.13	4.7	3.23	0.07	0.75

The scores for all items increased at the end of the VTS experience. For four items, the increase was statistically significant. The effect sizes ranged between 0.49 and 0.97, demonstrating the extent of the effectiveness.

Discussion

Visual Thinking Strategies (VTS) can be adapted for the elderly in geriatric contexts to improve communication, cognitive function, and quality of life by using visual aids. Based on the results obtained, both in terms of well-being and cognitive, emotional, and relational aspects, the Visual Thinking Strategies method, and therefore art, can be considered a valid tool for promoting activities that can help people at risk of cognitive decline, loneliness, and depression. These approaches are tested and recommended by the WHO (WHO, 2019) to integrate the treatment process, considering the individual's psychological and social context. This type of method, by initiating a discussion around a specifically chosen work of art, allows participants not only to reflect on the world around them but also to bring out the observer's personal knowledge and experiences, thus reactivating the memory of their own social and cultural journey. The experience of art can be useful for maintaining cognitive function, but also for promoting well-being and specific skills and abilities useful for a better quality of life (Bolwerk, 2014) (Grossi, 2019) (Forte, 2025). The experience with VTS and the results further demonstrate the connections between the impact of the VTS method on the cognitive, psychological, and social spheres, linked to the activation of specific neural areas, as studies have highlighted its unique characteristics (Van Leeuwen, 2023). The limitations of this study include the small number of participants and the lack of a control group, but comparison with other studies confirms the validity of using these activities to improve cognitive aspects and the well-being of the elderly people involved.

This experience suggests how art and the VTS method can be useful for cultivating social brain networks through artistic engagement, promoting psychological well-being and cognitive functioning in healthy aging, as well as mitigating the effects of dementia.

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